

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

**Richard E. Waitkus, Jr.**

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Group Art Unit: **2857**

Serial No.: **10/774,240**

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EXAMINER: **TUNG S. LAUY**

Filed: **February 6, 2004**

§

Title: **"SYSTEMS AND METHODS  
MATERIAL MANAGEMENT"** FOR § Atty. Docket No.: **016093.0118**

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**APPELLANT'S BRIEF (37 C.F.R. § 41.37)**

This Amended Brief is submitted in support of Applicants' Notice of Appeal from the rejections in the Final Office Action dated February 27, 2007 (the "Final Office Action") and the Notice of Panel Decision from Pre-Appeal Brief Review dated September 17, 2007.

**I. IDENTIFICATION OF THE REAL PARTIES OF INTEREST**

The real parties in interest is:

MGM Services, Inc.

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Houston, Texas 77079

by virtue of assignments by the inventors as duly recorded in the Assignment Branch of the U.S. Patent and Trademark Office.

**II. IDENTIFICATION OF RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences, to Applicants' knowledge.

**III. STATUS OF THE CLAIMS**

The application as originally filed contained 35 claims. Claims 1, 3-5, 8, 11, 14-19, 21, 24-26, and 28-32 are finally rejected and appealed. Claim 6-7, 9-10, 12-13, 20, 22-23, and 27 are objected to. Claims A listing of all appealed claims is provided in Appendix A in this Amended Brief.

**IV. STATUS OF ANY AMENDMENT FILED SUBSEQUENT TO FINAL REJECTION**

No amendment has been filed subsequent to final rejection.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

Claim 1 is directed to a material management system including one or more waste containers adapted to receive and compact waste. (Spec page 4, lines 8-16; Fig. 1, elements 1, 10) The material management system includes a fullness-measuring subsystem for determining the fullness of one or more waste containers. (Spec page 4, lines 8-16; page 5, line 18-page 6, line 8; Fig. 1, elements 10, 12) The material management system includes a computerized scheduling subsystem in communication with the fullness-measuring subsystem for automatically determining an optimal time to empty each waste container, based on the fullnesses of the waste container and scheduling factors including customer preferences and waste hauler limitations. (Spec page 6, line 9-page 11, line 14; Fig. 1, elements 110, 112; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300,

400, 402, 404, 406, 408) The computerized scheduling subsystem stores at least one scheduling factor before determining the optimal time to empty each waste container. (Spec page 4, lines 14-16; page 7, line 18-page 8, line 22; Fig. 2, elements 200, 202, 204, 206)

Claim 15 is directed to a computerized method for scheduling a pick up time to remove of one or more waste containers, including, for each waste container, automatically determining a fullness of the waste container. (Spec page 4, lines 8-16; page 5, line 18-page 6, line 8; Fig. 1, elements 10, 12) The method further includes, for each waste container, automatically determining when a waste container will a target level of fullness, based on the current fullness and predicted future usage. (Spec page 4, line 17-page 7, line 6; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300, 400, 402, 404, 406, 408) The method includes, for each waste container, storing at least one scheduling factor selected from the group of scheduling factors consisting of customer preferences and waste hauler limitations. (Spec page 6, line 9-page 11, line 14; Fig. 1, elements 110, 112; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300, 400, 402, 404, 406, 408) The method includes, for each waste container, automatically determining an optimal time to remove the waste container, based on: when the waste container will reach the target level of fullness; customer preferences; and waste hauler limitations. (Spec page 6, line 9-page 11, line 14; Fig. 1, elements 110, 112; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300, 400, 402, 404, 406, 408) The method includes, for each waste container, automatically scheduling the removal of the waste container for the optimal time. (Spec page 4, lines 14-16; page 7, line 18-page 8, line 22; Fig. 2, elements 200, 202, 204, 206)

Claim 24 is directed to a computer program, stored on a tangible storage medium, for use in scheduling a pick up time to remove one or more waste containers. (Spec page 4, line 17-page 7, line 6; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300, 400, 402, 404, 406, 408) The computer program includes executable instructions that cause a computer to, for each waste container, determine a fullness of the waste container. (Spec page 4, lines 8-16; page 5, line 18-page 6, line 8; Fig. 1, elements 10, 12) The computer program includes executable instructions that cause a computer to, for each waste container, determine when the waste container will reach a target level of fullness, based on the current fullness and predicted future usage. (Spec page 4, line 17-page 7, line 6; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300, 400,

402, 404, 406, 408) The computer program includes executable instructions that cause a computer to, for each waste container store at least one scheduling factor selected from the group of scheduling factors consisting of customer preferences and waste hauler limitations. (Spec page 6, line 9-page 11, line 14; Fig. 1, elements 110, 112; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300, 400, 402, 404, 406, 408) The computer program includes executable instructions that cause a computer to, for each waste container, determine an optimal time to remove the waste container, based on: when the waste container will reach the target level of fullness; customer preferences; and waste hauler limitations. (Spec page 6, line 9-page 11, line 14; Fig. 1, elements 110, 112; Fig. 2, elements 200, 202, 204, 206; Fig. 3, elements 300, 200, 304, 306, 308, 310; Fig. 4, elements 300, 400, 402, 404, 406, 408) The computer program includes executable instructions that cause a computer to, for each waste container, schedule the removal of the waste container for the optimal time. (Spec page 4, lines 14-16; page 7, line 18-page 8, line 22; Fig. 2, elements 200, 202, 204, 206)

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claims 1, 8, 11, 15-18, and 20-21, 24-25, 28 (and claims 6, 7, 9, 10, 12, 13, 20, 22, 23, and 27, which are objected to) are unpatentable under 35 U.S.C. § 102(a) over U.S. Patent Application Publication 2002/0077875 by Nadir. (“Nadir”).
2. Whether claim 3 is unpatentable under 35 U.S.C. § 102(a) over Nadir.
3. Whether claims 4, 29, and 31 are unpatentable under 35 U.S.C. § 102(a) over Nadir.
4. Whether claim 5 is unpatentable under 35 U.S.C. § 102(a) over Nadir.
5. Whether claim 14, 18, and 26 are unpatentable under 35 U.S.C. § 102(a) over Nadir.
6. Whether claim 19 is unpatentable under 35 U.S.C. § 102(a) over Nadir.
7. Whether claims 30 and 32 are unpatentable under 35 U.S.C. § 102(a) over Nadir.

## **VII. ARGUMENTS**

1. **Claims 1, 8, 11, 15-18, and 20-21, 24-25, 28 (and claims 6, 7, 9, 10, 12, 13, 20, 22, 23, and 27, which are objected to) are patentable over Nadir**

The Office Action states:

**Regarding claim 1:**

Nadir discloses a material management system including: one or more waste containers adapted to receive and compact waste (abstract); a fullness-measuring subsystem for determining the fullness of one or more waste containers (fig. 1, page 1, section 0007); a computerized scheduling subsystem in communication with the fullness-measuring subsystem for automatically determining an optimal time to empty each waste container (fig. 1, page 3, section 0028-0036), based the fullness of the waste container (fig. 1, truck with waste container) and scheduling factors (page 3, section 0028-0030) including customer preferences (page 2, section 0034, no customers want the waste container overflow) and waste hauler limitations (page 2, section 0022), and where the computerized scheduling subsystem (fig. 1, unit computer) stores at least one scheduling factor before determining the optimal time to empty each waste container (page 3, section 0030).

Office Action, pages 2-3.

Applicant disagrees. Anticipation can be established only when every element of the claim is disclosed by a single prior art reference. MANUAL OF PATENT EXAMINING PROCEDURE § 2131 (2005) (hereinafter “MPEP”); *RCA Corp. v. Applied Digital Data Systems, Inc*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

Claim 1 requires, in part, “a computerized scheduling subsystem . . . for automatically determining an optimal time to empty each waste container, based on the fullnesses of the waste container and scheduling factors including customer preferences and waste hauler limitations, and where the computerized scheduling subsystem stores at least one scheduling factor before determining the optimal time to empty each waste container.” Nadir does not show these limitations.

First, The Office action states that the limitation of “determining an optimal time to empty waste container, based on the fullness of the waste container” is disclosed by a figure of a “truck with waste container” in Fig.1 of Nadir. Applicant cannot understand how this figures show a step of “determining” anything, and certainly does not disclose determining an optimal time to empty the waste container, based on the fullness of the waste container.

Second, The Office action states that the scheduling factors of customers preferences are shown by Nadir at “page 2, section 0034, no customers want the waste container to overflow.” Paragraph 0034 of Nadir states:

Compactors are always ready to accept waste and won't overflow. The compactor are never overweight. Compactor maintenance is enhanced due to operational data communication with the central location. It is easy to combine the present invention with any kind of compactor, requiring only minor changes.

Nadir, paragraph 0034.

This does not disclose “determining an optimal time to empty a waste container, based on . . . . customer preferences.” The paragraph does not enumerate any customer preferences, nor does it show determining an optimal time to empty a waste container based on customer preferences. The Office action states that “no customers want the waste container to overflow,” but this is not disclosed in the cited portion of Nadir. Furthermore, the statement that “no customers want the waste container to overflow,” misses the point of customer preferences as discussed in this application. Some customers **may** prefer that their waste container always be full before they are emptied, while other customers may prefer that their waste containers always be emptied before they are full. In any case, the cited portion of Nadir does not disclose the use of any customer preference in the determination of when to empty a waste container.

Second, the claim requires “determining an optimal time to empty a waste container, based on . . . . waste hauler limitations.” Nadir also fails to disclose this limitation. The Office action cites paragraph 0022 of Nadir to show this limitation. That paragraph states:

The microprocessor of each compactor continuously calculates predicted trash weight and target time, such information is crucial for the fleet management unit to generate a pick-up schedule for all compactors. In one preferred embodiment, the target time is calculated based on the target weight reaching within 97-100% of the actual weight. In another preferred embodiment, the target time is calculated based on the target weight reaching its 97-100% of actual weight 24 hours in advance. The microprocessor is attached to and adapted to work with any kind of compactor used by the customers.

Nothing in this paragraph discloses determining an optimal time to empty a waste container **based on waste hauler limitations**. Predicted trash weight and target time are not waste hauler limitations. In the absence of any evidence or reasoning to show this limitation it is simply not disclosed in Nadir.

Third, the claim requires that the scheduling factors be stored before determining the optimal time to empty each waste container. The most relevant portion of paragraph 30 of Nadir states that “[t]he fleet management unit stores past and most recent data regarding target times.” Target times are not scheduling factors that include waste hauler limitations or customer preferences, as required by the claim. Nadir therefore does not disclose this limitation.

Applicant has shown that Nadir fails to disclose each limitation of claim 1. Claims 3-14 depend from claim 1 and are therefore not anticipated by Nadir. Applicant, therefore, respectfully requests that the rejection of these claims be reversed.

With respect to independent claim 15, the Office action states:

Nadir discloses a computerized method for scheduling a pick up time to remove of one or more waste containers, including, for each waste container (abstract, fig. 1), automatically determining a fullness of the waste container (page 2, section 0016); automatically determining when a waste container will reach a target level of fullness (page 2, section 0022), based on the current fullness and predicted future usage (page 2, section 0012, 0023, page 3, section 0030); storing at least one scheduling factor selected from the group of scheduling factors consisting of customer preferences and waste hauler limitations (page 3, section 0033-0034, so that container will not overflow); automatically determining an optimal time to remove the waste container (page 2-3, section 0030), based on when the waste container will reach the target level of fullness (page 2, section 0022), customer preferences (page 2, section 0034, no customers want the waste container overflow), and waste hauler limitations (page 2, section 0022); and automatically scheduling the removal of the waste container for the optimal time (page 3, section 0033-0035).

Office Action, pages 3-4.

Applicant disagrees. Claim 15, requires, in part “[a] computerized method for scheduling a pick up time to remove of one or more waste containers, including, for each waste container . . . automatically determining an optimal time to remove the waste container, based on: when the waste container will reach the target level of fullness; customer preferences; and waste hauler limitations.” As discussed above with respect to claim 1, Nadir does not disclose determining an optimal time to remove the waste container based on waste hauler limitations and customer preferences. Claim 15 is therefore patentable over Nadir. Claims 16-23 and 32 depend from 15 and are similarly patentable over Nadir.

With respect to independent claim 24, the Office action states:

Nadir discloses a computer program, stored on a tangible storage medium, for use in scheduling a pick up time to remove one or more waste containers, the computer program including executable indications that cause a computer to (fig. 1), for each waste container (fig. 1); determine a fullness of the waste container; determine when the waste container will reach a target level of fullness (page 2-2, section 0022), based on the current fullness and predicted future usage (page 2, section 0022); storing at least one scheduling factor selected from the group of scheduling factors consisting of customer preference and waste hauler limitation ((page 3, section 0033-0034, so that container will not overflow), determine an optimal time to remove the waste container (page 3, section 0030), based on when the waste container will reach the target level of fullness (page 2, section 0022), customer preferences (page 2, section 0034, no customers want the waste container overflow), and waste hauler limitations (page 2, section 0022); and schedule the removal of the waste container for the optimal time (page 3, section 0033-0035).

Office Action, page 4.

Applicant disagrees. Claim 24, requires, in part “[a] computer program, stored on a tangible storage medium, for use in scheduling a pick up time to remove one or more waste containers, the computer program including executable instructions that cause a computer to, for each waste container, . . . .determine an optimal time to remove the waste container, based on: when the waste container will reach the target level of fullness; customer preferences; and waste hauler limitations.” As discussed above with respect to claim 1, Nadir does not disclose determining an optimal time to remove the waste container based on waste hauler limitations and customer preferences. Claim 24 is therefore patentable over Nadir. Claims 25-31 depend from 24 and are similarly patentable over Nadir.

## **2. Claim 3 is patentable over Nadir.**

With respect to claim 3, the Office action states:

Regarding claim 3, Nadir discloses including the optimal time is the latest time that satisfies customer preferences (page 3, section 0034, no customers want the waste container overflow), and waste hauler limitations (page 2, section 0034, the container never overweight, overflow).

Office Action, page 5.

Applicant disagrees. Claim 3 requires, in part that, “the optimal time is the latest time that satisfies customer preferences and waste hauler limitations.” As discussed above, Nadir does not disclose determining a pick up time based on customer preferences, waste hauler limitations (or both, as required by claim 1). Therefore, Nadir cannot determine a latest time that satisfies both customer preferences and waste hauler limitations. In any case, Nadir also fails to disclose scheduling at an optimal time that is the latest time to satisfy any constraints. Claim 3 is therefore patentable over Nadir.

For at least these reasons claim 3 is patentable over Nadir.

**3. Claims 4, 29, and 31 are patentable over Nadir.**

With respect to claim 4, the Office action states:

Regarding claim 4, Nadir discloses a preference that the customer’s waste container only reach a certain level of fullness (page 2, section 0022-0023).

Office Action, page 5.

With respect to claim 29, the Office action states:

Regarding claim 29, Nadir discloses the customer preferences include one or more preferences selected from the group consisting of: a preference that the customer’s waste container only reach a certain level of fullness (page 3, section 0033-34, no customer wants the waste container to overfill); a preference that the customer’s waste container not be emptied on certain days of the week; and a preference that the customer’s waste container not be emptied during certain hours of the day.

Office Action, pages 6.

With respect to claim 31, the Office action states:

Regarding claim 31, Nadir discloses the customer preferences include one or more preferences selected from the group consisting of a preference that the customer’s waste container only reach a certain level of fullness (page 3, section 0033-34, no customer wants the waste container to overfill); a preference that the customer’s waste container not be emptied on certain days of the week; and a preference that the customer’s waste container not be emptied during certain hours of the day.

Office Action, page 7.

Applicants disagree. Claim 4 requires that “the customer preferences considered by the computerized scheduling sub-system include one or more preferences selected from the group consisting of: a preference that the customer's waste container only reach a certain level of fullness; a preference that the customer's waste container not be emptied on certain days of the week; and a preference that the customer's waste container not be emptied during certain hours of the day..

Claim 29 requires that “the customer preferences include one or more preferences selected from the group consisting of a preference that the customer's waste container only reach a certain level of fullness; a preference that the customer's waste container not be emptied on certain days of the week; and a preference that the customer's waste container not be emptied during certain hours of the day.”

Similarly, claim 31 requires that “the customer preferences include one or more preferences selected from the group consisting of a preference that the customer's waste container only reach a certain level of fullness; a preference that the customer's waste container not be emptied on certain days of the week; and a preference that the customer's waste container not be emptied during certain hours of the day.”

Nadir does not disclose determining an optimal pickup time based on any customer preferences, and it certainly does not disclose determining an optimal pickup time based on any of the customer preferences listed in claims 29 and 31. The Office action says that Nadir discloses “no customer wants the waste container to overfill,” which is not disclosed in Nadir. Even if it was disclosed in Nadir, this is not a customer preferences that the customer's waste container only reach a certain level of fullness as required by the claims.

Paragraph 0034 of Nadir states:

Compactors are always ready to accept waste and won't overflow. The compactor are never overweight. Compactor maintenance is enhanced due to operational data communication with the central location. It is easy to combine the present invention with any kind of compactor, requiring only minor changes.

Nadir, paragraph 0034.

This does not disclose “determining an optimal time to empty a waste container, based on . . . customer preferences.” The paragraph does not enumerate any customer preferences, nor does it show determining an optimal time to empty a waste container based on customer preferences. The Office action states that “no customers want the waste container to overflow,” but this is not disclosed in Nadir. Furthermore, the statement that “no customers want the waste container to overflow,” misses the point of customer preferences as discussed in this application. Some customers **may** prefer that their waste container always be full before they are emptied, while other customers may prefer that their waste containers always be emptied before they are full. In any case, the cited portion of Nadir does not disclose the use of any customer preference in the determination of when to empty a waste container.

For at least these reasons claims 29 and 31 are patentable over Nadir.

#### **4. Claim 5 is patentable over Nadir.**

With respect to claim 5, the Office action states:

Regarding claim 5, Nadir discloses a number of drivers available at a specified time (page 3, section 0032, schedule depend on how many truck is on the fleet, i.e. each truck is schedule in the fleet).

Office Action, pages 5.

Applicant disagrees. Claim 5 requires that “the waste hauler limitations considered by the computerized scheduling sub-system include one or more limitations selected from the group consisting of: a number of drivers available at a specified time; a number of trucks available at a specified time; a distance from the waste hauler to the customer's waste container; a distance from the customer's waste container to the material receiving site; operating hours of the waste hauler's dispatcher/routing office; and operating hours of a company that schedules hauls with the waste hauler.” Nadir does not disclose considering any waste hauler limitations, and does not disclose considering any of the waste hauler limitations enumerated in the claim. The Office action argues that Nadir discloses considering “the number of trucks in the fleet.” This fails to disclose this claim for at least two reasons. First, the claim requires considering “the number of trucks available at a specified time.” The Office action does not even argue that Nadir discloses the highlighted portion of the limitations and, in fact, Nadir makes not such disclosure.

Second, Nadir does not even disclose the consideration of “the number of trucks in the fleet,” as the Office action claims. The cited portion of Nadir states: “The computer system of the fleet management unit is capable of calculating and creating a pick-up schedule based on the target times. An initial schedule can be generated in advance, and shall be subsequently updated, utilizing more recent data. As soon as a schedule for each truck is completed, information is transmitted to the truck fleet for dispatch to pick up trash accordingly.” This does not amount to determining an optimal pickup time based on an explicit consideration of the number of trucks in the waste hauler’s fleet , as the Office action claims.

For at least these reasons, claim 5 is patentable over Nadir.

**5. Claim 14, 18, and 26 is patentable over Nadir.**

With respect to claim 14, the Office action states:

Regarding claim 14, Nadir discloses determines when to accomplish the scheduling of the waste container removal, based on the optimal time and one or more waste hauler limitations (page 3, section 0030-0032).

Office Action, page 5.

With respect to claims 18 and 26, the Office action states:

Regarding claims 18, 26, Nadir discloses automatically determining when to accomplish the scheduling of the waste container removal, based on the optimal time and one or more waste hauler limitations (page 2, section 0022-0024).

Office Action, pages 6.

Applicant disagrees. Claims 14, 18, and 26 are directed to determining a time to perform the act of scheduling a pickup. For example, claim 14 requires, “determines when to accomplish the scheduling of the waste container removal, based on the optimal time and one or more waste hauler limitations.” This is different from determining the time when the waste container will be removed. Instead, this is concerned with the time when the decision regarding when to remove the waste container is made. Nadir does not discuss the timing of this decision anywhere. The cited portions of Nadir are directed to determining a pickup time based on fullness. This is not a disclose of the claim elements.

For at least these reasons claims 14, 18, and 26 are patentable over Nadir.

**6. Claim 19 is patentable over Nadir.**

With respect to claim 19, the Office action states:

Regarding claim 19, Nadir discloses latest time to accomplish the scheduling (page 2, section 0022-0024).

Office Action, page 6.

Applicant disagrees. Claim 19 requires “where automatically determining when to accomplish the scheduling includes: determining the latest time to accomplish the scheduling.” As discussed above with respect to claim 18, Nadir makes no disclosure of determining when to perform the scheduling, much less using the latest time, as required by this claim.

For at least these reasons claim 19 is patentable over Nadir.

**8. Claims 30 and 32 is patentable over Nadir.**

With respect to claims 30 and 32, the Office action states:

Regarding claims 30, 32, Nadir discloses operating hours of waste hauler's dispatcher office (page 2, section 0022).

Office Action, page 7.

Claim 30 requires that “the waste hauler limitations include one or more limitations selected from the group consisting of: a number of drivers available at a specified time; a number of trucks available at a specified time; a distance from the waste hauler to the customer's waste container; a distance from the customer's waste container to the material receiving site; operating hours of the waste hauler's dispatcher/routing office; and operating hours of a company that schedules hauls with the waste hauler.” Similarly, claim 32 requires that “the waste hauler limitations include one or more limitations selected from the group consisting of: a number of drivers available at a specified time; a number of trucks available at a specified time; a distance from the waste hauler to the customer's waste container; a distance from the customer's waste container to the material receiving site; operating hours of the waste hauler's dispatcher/routing office; and operating hours of a company that schedules hauls with the waste hauler.” Nadir does not disclose determining an optimal pickup time based on any waste hauler limitations, and does not disclose considering any of the waste hauler limitations enumerated in claims 30 and 32.

The Office action cites paragraph 0022 of Nadir to show this limitation. That paragraph states:

The microprocessor of each compactor continuously calculates predicted trash weight and target time, such information is crucial for the fleet management unit to generate a pick-up schedule for all compactors. In one preferred embodiment, the target time is calculated based on the target weight reaching within 97-100% of the actual weight. In another preferred embodiment, the target time is calculated based on the target weight reaching its 97-100% of actual weight 24 hours in advance. The microprocessor is attached to and adapted to work with any kind of compactor used by the customers.

Nothing in this paragraph discloses determining an optimal time to empty a waste container based on waste hauler limitations. Predicted trash weight and target time are not waste hauler limitations. The Office action claims that Nadir discloses “operating hours of waste hauler’s dispatcher office,” but there is no such disclose in Nadir. In the absence of any evidence or reasoning to show this limitation it is simply not disclosed in Nadir.

For at least these reasons, claims 30 and 32 are patentable over Nadir.

## **VIII. SUMMARY**

In light of the foregoing, Applicant respectfully requests that the final rejection of the pending claims should be reversed and the application be remanded for allowance of the pending claims, or, alternatively, remand the application for further examination if appropriate references can be found by the Examiner.

To the extent necessary, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0383, Order No. 016093.0118.

Respectfully Submitted,

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Date: December 17, 2007

## **APPENDIX A: CLAIMS INVOLVED IN APPEAL**

1. A material management system including:
  - one or more waste containers adapted to receive and compact waste;
  - a fullness-measuring subsystem for determining the fullness of one or more waste containers;
  - a computerized scheduling subsystem in communication with the fullness-measuring subsystem for automatically determining an optimal time to empty each waste container, based on the fullnesses of the waste container and scheduling factors including customer preferences and waste hauler limitations, and where the computerized scheduling subsystem stores at least one scheduling factor before determining the optimal time to empty each waste container.
3. The material management system of claim 1, where the optimal time is the latest time that satisfies customer preferences and waste hauler limitations.
4. The material management system of claim 1, where the customer preferences considered by the computerized scheduling sub-system include one or more preferences selected from the group consisting of:
  - a preference that the customer's waste container only reach a certain level of fullness;
  - a preference that the customer's waste container not be emptied on certain days of the week; and
  - a preference that the customer's waste container not be emptied during certain hours of the day.
5. The material management system of claim 1, where the waste hauler limitations considered by the computerized scheduling sub-system include one or more limitations selected from the group consisting of:
  - a number of drivers available at a specified time;
  - a number of trucks available at a specified time;
  - a distance from the waste hauler to the customer's waste container;
  - a distance from the customer's waste container to the material receiving site;
  - operating hours of the waste hauler's dispatcher/routing office; and
  - operating hours of a company that schedules hauls with the waste hauler.

8. The material management system of claim 1, including a communication subsystem in communication with the computerized scheduling subsystem for notifying the waste hauler when to remove the waste container.
11. The material management system of claim 1, where the predicted future usage is based on statistical analysis, performed by the computerized scheduling sub-system, of customer usage patterns including prior recorded fullnesses.
14. The material management system of claim 1, where the computerized scheduling subsystem, for each waste container:
  - determines when to accomplish the scheduling of the waste container removal, based on the optimal time and one or more waste hauler limitations.
15. A computerized method for scheduling a pick up time to remove of one or more waste containers, including, for each waste container:
  - automatically determining a fullness of the waste container;
  - automatically determining when a waste container will a target level of fullness, based on the current fullness and predicted future usage;
  - storing at least one scheduling factor selected from the group of scheduling factors consisting of customer preferences and waste hauler limitations;
  - automatically determining an optimal time to remove the waste container, based on:
    - when the waste container will reach the target level of fullness;
    - customer preferences; and
    - waste hauler limitations; and
  - automatically scheduling the removal of the waste container for the optimal time.
16. The method of claim 15, where the target level of fullness is some percentage of fullness
17. The method of claim 16, where the percentage of fullness is about 100%.
18. The method of claim 15, including, for each waste container:
  - automatically determining when to accomplish the scheduling of the waste container removal, based on the optimal time and one or more waste hauler limitations.

19. The method of claim 18, where automatically determining when to accomplish the scheduling includes:

determining the latest time to accomplish the scheduling.

21. The method of claim 15, where automatically determining when the waste container will reach the target level of fullness, based on predicted future usage, includes analyzing customer usage patterns.

24. A computer program, stored on a tangible storage medium, for use in scheduling a pick up time to remove one or more waste containers, the computer program including executable instructions that cause a computer to, for each waste container:

determine a fullness of the waste container;

determine when the waste container will reach a target level of fullness, based on the current fullness and predicted future usage;

storing at least one scheduling factor selected from the group of scheduling factors consisting of customer preferences and waste hauler limitations;

determine an optimal time to remove the waste container, based on:

when the waste container will reach the target level of fullness;

customer preferences; and

waste hauler limitations; and

schedule the removal of the waste container for the optimal time.

25. The computer program of claim 24, where the target level of fullness is some percentage of fullness.

26. The computer program of claim 24, where the executable instructions cause the computer to, for each waste container:

determine when to accomplish the scheduling of the waste container removal waste container, based on the optimal time and waste hauler limitations.

28. The computer program of claim 24, where the executable instructions cause the computer to analyze customer usage patterns when determining when the waste container will reach the target level of fullness.

29. The method of claim 15, where the customer preferences include one or more preferences selected from the group consisting of:

- a preference that the customer's waste container only reach a certain level of fullness;
- a preference that the customer's waste container not be emptied on certain days of the week; and
- a preference that the customer's waste container not be emptied during certain hours of the day.

30. The computer program of claim 24, where the waste hauler limitations include one or more limitations selected from the group consisting of:

- a number of drivers available at a specified time;
- a number of trucks available at a specified time;
- a distance from the waste hauler to the customer's waste container;
- a distance from the customer's waste container to the material receiving site;
- operating hours of the waste hauler's dispatcher/routing office; and
- operating hours of a company that schedules hauls with the waste hauler.

31. The computer program of claim 24, where the customer preferences include one or more preferences selected from the group consisting of:

- a preference that the customer's waste container only reach a certain level of fullness;
- a preference that the customer's waste container not be emptied on certain days of the week; and
- a preference that the customer's waste container not be emptied during certain hours of the day.

32. The method of claim 15, where the waste hauler limitations include one or more limitations selected from the group consisting of:

- a number of drivers available at a specified time;
- a number of trucks available at a specified time;
- a distance from the waste hauler to the customer's waste container;
- a distance from the customer's waste container to the material receiving site;
- operating hours of the waste hauler's dispatcher/routing office; and
- operating hours of a company that schedules hauls with the waste hauler.

**APPENDIX B: EVIDENCE**

None

**APPENDIX C: RELATED PROCEEDINGS**

None